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AUTHOR Ediger, Marlow
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ABSTRACT

This document contains five essays designed to help teachers and administrators improve tech prep and vocational education programs. The first essay, "Application of Psychology of Learning to Tech Prep Education and Instruction," posits that technical education instructors need to be cognizant of the following: meaningful learning; sequential experiences; student success; purposeful activities; provision for individual differences; knowledge, skills, and attitudinal goals; and quality evaluation techniques. The second essay, "Reading in Tech Prep Education," proposes that high-level reading skills are needed by technical education students and that teachers should assess students' reading skills and help improve them. The third essay, "Curriculum Design in Technical Education," raises three questions: Who should choose objectives of instruction? How should learning opportunities be sequenced? and Which procedures should be used to appraise learner progress? "Improving Vocational Education," the fourth essay, suggests three improvement methods: setting instructional goals for vocational education, encouraging faculty members to attend classes and workshops to upgrade their skills, and sharing ideas at faculty meetings. Specific ideas for teacher training are offered. The final essay, "Analyzing Trends in the Curriculum," discusses relevant trends in today's curriculum, such as cooperative learning, the interdisciplinary curriculum, team teaching, constructivism in teaching, full inclusion, learning styles of pupils, and the block of time. (KC)

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IMPROVING TECH PREP AND VOCATIONAL EDUCATION

BY
DR. MARLOW EDIGER
PROFESSOR OF EDUCATION

TRUMAN STATE UNIVERSITY, KIRKSVILLE

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APPLICATION OF PSYCHOLOGY OF LEARNING TO TECH PREP EDUCATION AND INSTRUCTION

Technical education instructors need to follow desired tenets from the psychology of learning to aid each student to achieve optimally. To guide individual optimal achievement among students, the instructor needs to provide meaningful experiences. With meaning, learners understand what has been taught. Understanding of content and skills is necessary so that desirable attitudes are developed.Instructors then need to guide technical education students to attach meaning and understanding to ongoing tasks and experiences.

Second, the technical education instructor needs to emphasize quality sequence in student learning. Learning opportunities in the order presented must harmonize with achievement and ability levels of students. With quality sequence, tasks are arranged in ascending order of complexity. Failure for students in learning is then greatly minimized. When a task becomes too complex, the technical education instructor needs to utilize the concepts of diagnosis and remediation. Thus sequential learning opportunities might then follow again.

Third, technical education students need to experience success in learning. Success in learning provides opportunities for instructors to emphasize reinforcement techniques. Rewards may then be given for definite standards of student achievement. Learners should know prior to instruction what to attain so that the appropriate rewards might be forthcoming. Selected instructors may wish to stress intrinsic motivation whereby learning is its own reward, rather than the use of reinforcement techniques of instruction. With intrinsic motivation, learning and achievement are their very own rewards.

Fourth, students need guidance to perceive purpose in learning. With purpose, learners perceive reasons for achieving in technical education. Inductive approaches whereby students are led by the instructor through questioning in developing perceived purpose to

pursue a given task may be utilized.Deductive approaches may also be used. Here, the technical education instructor explains to students values of learning sequential tasks in ongoing lessons.

Fifth, individual differences among students need adequate provision. Students individually have diverse learning styles. A variety of activities and experiences should be in the offing. Concrete materials (life-like situations), semi-concrete methods (models, pictures, video-tapes and disks, films, and filmstrips),and abstract content might then provide learning opportunities for students. These three kinds of experiences may assist each student to attain more optimally in technical education.

Sixth, the technical education instructor needs to emphasize three kinds of objectives in teaching-learning situations. Knowledge goals stress that students achieve vital facts, concepts, and generalizations. Skills objectives assist students to utilize knowledge in ongoing tasks. Knowledge goals can be implemented prior to specific skill development. Knowledge may also be acquired as skills are being achieved. Attitudinal ends guide learners in developing positive feelings, values, and purpose toward achieving knowledge and skill ends.

Seventh, a quality program of student appraisal is a must. Intellectual development and growth of technical education students need thorough assessment. Emotional development needs appraisal to ascertain if each learner has increased positive attitudes toward the technical education arena. Social development is salient in that the student of today will be in the workplace of the societal arena tomorrow. Physical development needs appraisal to determine if the learner possesses increased stamina and agility for the demands of the world of work.

Psychologies of Instruction

Technical education instructors need to be thoroughly familiar with two schools of thought, as a minimum, from psychology.Behaviorism, a

management system of instruction, emphasizes utilization of measurably stated objectives in teaching-learning situations. The objectives are stated in measurable terms and are written prior to instruction. Each objective, prior to instruction, may be clearly stated to the students. Students then understand what is expected of them as a result of instruction. After instruction, the technical education instructor determines if students individually have been successful in goal attainment. Either a student has or has not achieved sequential objectives.

The instructor may utilize praise as a principle of positive reinforcement. Reinforcement tends to shape student behavior in the desired direction. The objectives need to be arranged in ascending order of complexity by the technical education instructor. From the simple to the increasingly complex is an excellent rule to follow in ordering objectives. With quality sequence or order, students should be quite successful in goal attainment.

A second psychology of instruction to emphasize is humanism. Humanists believe a humane technical education curriculum is in the offing when students have input into developing objectives, learning opportunities, and evaluation procedures. Learners then need to have choices, from among alternatives. A predetermined technical education curriculum containing goals, activities, and appraisal procedures does not harmonize with humanism. Humanists, rather, emphasize a psychological technical curriculum whereby the choice of sequence, with instructor guidance, resides within the student. A psychological curriculum is then in evidence. A psychological technical education curriculum can then be compared with a logically developed program of instruction. The latter is organized prior to teaching and learning in which sequence is determined by the instructor.

A learning stations approach may be stressed to represent humanism as a psychology of instruction. With diverse stations and adequate number of tasks at each, the technical education student may

select which station with its tasks to pursue. The instructor is a guide and stimulator, not a consistent dispenser of content and skills. The student needs to attain vital objectives, but may omit tasks perceived as lacking purpose and meaning. The student and the instructor cooperatively appraise the former's progress.

In Closing

The technical education instructor needs to emphasize the following tenets from the psychology of education in teaching-learning situations.

1. meaningful leanings
2. sequential experiences
3. success in student learning
4. purposeful activities
5. provision for individual differences among learners
6. knowledge, skills, and attitudinal goals to represent balance among objectives
7. quality evaluation techniques to determine student progress.

Two psychologies of instruction may be utilized in instruction, behaviorism and humanism. Desired tenants of each psychology must be selected to guide each student to attain optimally. The chosen tenets should guide students to appreciate and value technical education in school and society. Higher level knowledge or cognitive goals, such as critical and creative thinking, as well as problem solving ,need adequate attention in the curriculum.

READING IN TECH PREP EDUCATION

Tech- Prep has received much attention in career education. Dutton (1995) lists the following characteristics of career paths for secondary school students:

1. Career paths are for all students. They provide an academic foundation and special areas of concentration so that all students are prepared to articulate to a two year or a four year college program, even if they choose to to go directly into a job or military service immediately after high school graduation.
2. All secondary curricula are organized into four to six career clusters.
3. All students in eighth or ninth grade are counseled to select a career focus and develop a four or five year plan (reviewed each year).
4. All students are required to select a career cluster and take a concentration of at least three courses in one subject area.
5. Contextual learning environments and materials are encouraged/ supported in all courses.
6. Integration across subject matter areas and team teaching are encourage/ supported.
7. Special mentoring and tutorial services as well as other support services are provided for all students, as needed.
8. Flexible schedules and block time schedules are being reviewed or used to accommodate various learning/ teaching methodologies and student learning rates.

Tech prep/ school to work characteristics also are retained. Each school has

1. a core of applied courses in mathematics, science, and communications.
2. local partnerships of representatives from education, business community, other community organizations, and parents.
3. school to work transitional activities, including work- site experiences.
4. seamless and progressive curriculum articulation from elementary school through middle level and high school to postsecondary education and/ or career employment.

The purpose of public education is to prepare students with the knowledge, skills, and competencies they need to be successful. Schools must change, and principals carry the primary responsibilities for restructuring our schools and transforming educational processes so

that all students are prepared for a continuously changing technological/ information society. Many principals are taking advantage of the evolving tech prep/ school - to- work efforts to restructure and transform their schools to meet these needs (Dutton 1995, page three).

Reading is a skill that is important to all individuals, be it in the work place or in recreational endeavors. The technical education student must become a proficient reader so that optimal achievement is possible in the work place. Reading skills need to be upgraded continuously due to higher expectations presently from each person on the work force. It is quite obvious that what was considered to be a proficient reader ten years ago is no longer adequate. New knowledge is developed continuously by specialists in the field. Within the framework of increased available knowledge, there are new vocabulary terms, concepts, and ideas that must be understood. Thus reading skills should be developed throughout one's life span. Achievement in reading is ongoing and never complete. Low motivation (Wallace 1995) in reading needs to be overcome with students perceiving a need for relevance in becoming good readers. Quality reading skills are necessary in technical education and in society.

Reading and Technical Education

I have spoken to many high school instructors over the last thirty five years and approximately 30 per cent mention that the textbooks used in different courses are too complex for students to comprehend. Learners lose out on much information when not being able to read and understand content in basal textbooks. Generally, each high school course taken by students requires a considerable amount of reading. Reading can, of course, be an excellent way of learning. It is one way of learning much subject matter in technical education. Reading can be a rather rapid procedure of attaching meaning to that which is and must be experienced in problem solving in the work place. Technical education instructors must be certain that students have mastered the basics in becoming good readers. The basics include higher levels of

cognition that are involved in the processes of reading in the technical education arena. No student should be allowed to fall through the cracks due to inadequate reading skills. Diagnosis and remediation may be necessary to lift a student form where he/she is presently to a level of achievement and accomplishment in reading salient materials (Olson, 1995).

Technical education instructors need to be certain that each student can read well enough to comprehend content necessary in the work place. To comprehend means to be able to state orally in one's own words what has been read. If students cannot do this, diagnosis must occur to determine the causes of difficulties in reading. This may mean providing assistance to these students in word analysis skills such as phonics, syllabication, context skills, and structural analysis. Hopefully, the technical education instructor will be able to sequence reading skills for students beyond that of word analysis. However, the technical education instructor needs to ascertain where each student is achieving in reading at the present time and then provide sequential experiences in reading technical education materials.

Which skills in reading then does the technical education student need to acquire beyond that of word analysis? First, each student needs to be able to read directions accurately and understand the contents. Written directions that are not understood may mean faulty ways of doing and proceeding in a given operation. If the student lacks proficiency in reading directions, assistance must be given in this category. The learner needs much practice in reading to understand directions so that increased success in the work place will be in evidence. To comprehend content adequately in reading, the technical education student should be able pronounce 95- 98 per cent of sequential words correctly that were read in a given selection. If the rate of word identification goes increasingly below the 95 per cent level, the student will have difficulties in understanding what has been read.

There is a second dimension in reading, other than identifying words correctly, and that being to attach meaning to what has been

read, such as the learner being able say orally what the directions emphasize need to be done. Generally, if a student can answer three out of four questions correctly covering content read, he/she is able to comprehend subject matter adequately in technical education. Should comprehension go below this level, the technical education student may not function well in the work place. This is an informal method of determining reading comprehension levels. The percents given above for word recognition and for comprehension are not absolutes, but do indicate what is necessary to read proficiently in job performance. Students should not have had prior experience in reading the technical education content using this informal method of ascertaining if the textbook(s) used are on the reading level of the involved student. The instructor could also use the cloze procedure to determine if the technical education textbook is on the reading level of the student, or if it is too difficult or too easy for the student. The cloze method, an additional approach to determine reading proficiency of learners, stresses that every fifth word be omitted from the content in the technical education reading selection. The student then orally reads the content, without previous practice, to the instructor. The student must read correctly the omitted words as well as the rest with a fifty five percent accuracy rate for the book to be on his/her reading and understanding level. If the percent of correctly pronounced words continues to go below the fifty five per cent level, the learner will need increased assistance in reading subject matter content. Meaning and understanding of technical education content are musts (Ediger, 1994)! A variation of the cloze method is the maze method to ascertain reading levels of individual students. With the maze method, every fifth word is also omitted in the selection which the student has not had a chance to read previously. Nor has the reader listened in to others who have read the content orally in all the informal means of determining reading levels that have been discussed above. For each omitted word in the maze method, there are three multiple choice items from which the reader may select the correct one. If the technical education student obtains ninety per cent or higher

in the number of correct responses, the textbook(s) are on his or her reading levels (Harris and Sipay, 1985). I would recommend using these informal approaches in determining reading levels of students if they are having perceived difficulties in obtaining ideas through the use of symbolic materials. Adequate diagnosis must be in evidence with remedial assistance provided so that each technical education student achieves optimally. No learner should fall through the cracks. Each needs guidance and assistance to do well in technical education and be successful in the work place.

The National Assessment of Educational Progress (NAEP) administers tests each year to students of ages 9, 13, and 17. Results from testing students in reading indicate a definite lack of achievement in higher levels of thinking. Thus it behooves teachers to make certain that students can achieve well in critical thinking. To think critically, the learner must be able to separate facts from opinions. Much knowledge is needed to do this. Too frequently, readers accept as fact those opinions that have been read. All people have opinions on diverse topics and this certainly can be excellent. However, what is fact can be verified; opinions cannot and tend to represent that which is based on inadequate data or information. Critically thinking also stresses being skillful to separate accurate from inaccurate subject matter. Again, this is a complex skill since one has need to know what is correct and what is incorrect as far as ideas in reading are concerned. Appraising the worth of information read is vital to technical education students. Technical education students, as do all people in society, need to be life- long learners to be able to read critically and continuously refine reading skills.

A further skill in higher levels of cognition in reading is to read creatively. With creative reading, one anticipates what will appear next in printed content. Feedback is secured rather frequently when making these predictions since sequential content in reading will indicate if one is on the right track. The technical education instructor can assist learners in making these predictions by having the student read up to a

certain point. The student then indicates what might come next in ideas read even though the print is covered up. The reader may then uncover the printed materials to check prediction accuracy. Speed in reading may also increase when these predictions are made since a more holistic procedure is being stressed as compared to reading very analytically, such as being a word caller in identifying slowly each word met. A fluent reader uses a variety of word recognition techniques to identify unknown words and reads to comprehend. Word recognition techniques are tools that the technical education student should possess to read fluently. A creative reader reads in a fluent manner due to using word recognition techniques judiciously to identify the unknown. He/she can also predict well what will come next in sequence in terms of ideas presented in symbolical form. Creative thinkers are needed in society since quality ideas, techniques, and innovations accrue due to unique, novel, and original content identified by any person in the work place. The creative being attempts to find better ways of doing things and desires improved products in the societal arena.

There is so much to read for each person that one needs to read as rapidly as possible and yet compression does not suffer in the process. Instructors should not under estimate the importance of guiding students to become the best readers possible in order to increase employability skills. In times of higher unemployment in society, it becomes increasingly salient for students to read well in the work place.

Students and workers should also read for self enrichment and wise use of leisure time. Too many persons in society are passive individuals when viewing television programs, especially those programs of dubious educational value and moral worth. With appropriate skills in reading, the worker can truly enjoy reading content on diverse topics as well as to develop and maintain skills in a continually changing work place. Change in needed skills and knowledge certainly is in evidence and the wise individual upgrades the self continually on what is necessary to be a valued worker in society. Thus reading to solve problems becomes salient. Workers face problems

in the work place to complete tasks and responsibilities. Reading relevant materials may be one way to solve a problem. Technical education students presently and in the work place must first of all clearly identify the problem. One reason that individuals are not able to secure answers to dilemma situations is that clarity is lacking in problem identification. A creative person should be able to select a relevant problem that needs a solution. Next, a hypothesis or answer to the problem needs to be developed. Too frequently, hypotheses are hastily attained and do not possess the quality necessary to solve a problem. Any hypothesis is tentative, and information must be secured that relates to testing the hypothesis. Here the technical education student must have ideas on where to obtain content needed to test the hypothesis. There are times when the student must recall past experiences and achieve a conclusion rather quickly on testing the hypothesis. At other times, the learner may have a considerable amount of time to adequately test a hypothesis. Osterroth (1994) stresses the importance of students understanding vital concepts that will be used in the solving of problems. Selected hypotheses may be discarded due to their not holding up to quality standards under the testing. In technical education, the best solutions possible to problems encountered are needed to solve dilemma situations. Creativity is necessary in solving vital problems. At the work place, individuals are needed to identify and solve relevant problems.

In Conclusion

Workers in technical education need to be good readers to comprehend content read in a meaningful manner. Standards keep going up in terms of what society expects in the work place. One must continually upgrade skills in reading and use these skills to be a productive individual in school and in society. Managers and owners expect individuals to read well and achieve optimally in the world of work. Continual progress in reading is a must. Quality sequence in reading experiences should guide the technical education student to

become the kind of reader which benefits the work place as well as enriches the self. Bowden and Merritt (1995) emphasize four factors in the adult education curriculum. These are to consider age, needs, desires, and goals of the student. Certainly, instructors in technical education need to provide for individual differences among learners so that success presently and in the work place will be in evidence.

Selected References

Bowden, Randall, and Richard Merritt, Jr (1995). The Adult Learner Challenge: Instructionally and Administratively, Education ,115: 426- 431.

Dutton, Maurice (1995, pages 11 and 12). The Evolution of Tech Prep/ School - to- Work: Career Paths for all Students. Bulletin of the National Association of Secondary School Principals.

———————— (1995, page three.

Ediger, Marlow (1994). Meaning in the Reading Curriculum, Reading Improvement, 31: 49-52.

Harris, Albert J., and Edward Sipay. How to Increase Reading Ability. New York: Longmans Inc., 1985.

Olson, Judith (1995). Course- Based Reading Remediation: A Collaborative Experiment, Reading Improvement, 32: 53- 56.

Osterroth, Peter (1994). Variations in Problem solving Ability and Levels of Conceptual Development, Journal of Instructional Psychology, 21: 265- 266.

Wallace, James (1995). Improving the Reading skills of Poor Achieving Students, Reading Improvement,32: 102-104.

CURRICULUM DESIGN IN TECHNICAL EDUCATION

There are selected issues which need to be addressed in technical education. Issues need studying, researching, and deliberating in working toward closure. Perhaps, educators will not agree on solutions, presently or in the future. People have had diverse background experiences and develop different philosophies. However, it is important to discuss solutions to problems and attempt to reach consensus. Achievement and growth occur when individuals in technical education listen to the thinking of others and arrive at the best curriculum possible.

Who Should Select Objectives?

Objectives may be developed on the local level with heavy input from instructors in the surrounding environment. Here, instructors in technical education may met together in a planned series of meetings to choose the best objectives possible for learner attainment. Through quality discussions, participants share their expertise. Reference materials, consultant assistance, and supervisory guidance are available to stimulate thought and decision making. Instructors then should be able to come up with a set of worthwhile objectives that provide for students of divers achievement levels.

Somewhat toward the other end of the continuum. objectives in technical education may be written on the state level. Representatives from selected areas who have a reputation for truly being professionals in technical education may select and write objectives on the state level. Guidance and assistance in this task is provided for on the state level. Objectives derived form participants are then available to instructors on the local level.

Thus an issue in technical education exists in terms of who should select objectives for learner achievement.

How Should Learning Activities Be Sequenced?

The instructor or teaching team need to determine under which

sequence students attain more optimally. He/she may use tightly sequenced behaviorally stated objectives in the curriculum. Here, the instructor arranges objectives in technical education in a particular order for student achievement. Logical thinking by the instructor is used to place the objectives in ascending order of complexity. Toward the other end of the continuum, the student, in degrees, assists in sequencing objectives. Thus the student helps in selecting and arranging objectives of instruction through the raising of questions in class, the use of a contract system which involves student- teacher planning to determine what the former is to learn, and learner choice as to what is to be learned from a set of learning stations developed by the instructor. In situations such as these, a psychological curriculum is in evidence.Here, the learner is involved in ordering his/her own activities and experiences.

Individual differences need to be provided for so that all may attain optimally.

Evaluation of Achievement

Evaluation is a critical area to truly determine what students have attained. The instructor needs to devise procedures of evaluation which are valid in that they measure what has been taught. Reliability is another key ingredient in the evaluative process, be it test- retest, spilt-half, and/or alternative forms of measurement devices.

A vital question pertains to who should appraise student progress. The instructor could do all the appraising of learner progress with the development and use of evaluative procedures. If precise measurably stated objectives have been used in the instructional arena, the instructor could complete and use criterion referenced tests. Should students be rather heavily involved in evaluation of progress, a port folio approach may be used. Both the instructor and student select, after careful deliberation, what should go into the port folio. From the port folio, the employer may appraise the quality of work done by the learner in technical education.

In Closing

Three major questions must be raised in developing the curriculum. These are

1. Who should choose objectives of instruction?
2. How should learning opportunities be sequenced?
3. Which procedures should be used to appraise learner progress?

The above named questions need very careful consideration so that the best curriculum possible may be offered to students.

The supervisor has a leadership role in improving the vocational education curriculum. He/she is able work harmoniously with others in the school and societal arena. The supervisor places high priority upon being able to stimulate instructors to teach well. He/she realizes that instructors must guide learners to attain the goals of the institution as well as meet their own personal needs. The institution has its definite goals for learners to attain. These goals represent knowledge, skills, as well as attitudinal ends. Each of these types of goals are salient for students to obtain. Instructors need to be held accountable for guiding student goal attainment. Students individually need to attain as much as possible. Vocational education instructors also have personal needs, wants, and responsibilities. These need to be given adequate attention so that the personal dimension receives its fair share of time. Thus a proper balance must be maintained between the demands of the institution with its instructional goals for students to attain and the instructor as a person attempting to meet personal needs.

Instructional Goals of Vocational Education

Institutions stressing goals in vocational education must emphasize vital objectives that stimulate, encourage, and challenge each learner. Thus each objective needs to be scrutinized carefully before its implementation in the curriculum. Careless selection of objectives might stress the trivial and the unimportant. Time is then wasted in teaching and learning situations. Rather, the instructor must assume responsibility for choosing carefully that which is salient and worthwhile for students to achieve. Much must be learner by each student in vocational course work. Vocational courses need to be demanding so that learners are being trained and educated for the world of work. The vocational curriculum and the societal arena of work should be integrated and not separated from each other. Supervisors of vocational education must assist instructors to choose vital goals for student

attainment.

Objectives selected in terms of knowledge, skills, and attitudes for student achievement need to be sequenced properly. Quality sequence in teaching- learning situations guide learners to attain more optimally. If objectives are too difficult to achieve, students might well experience failure. Should the objectives be excessively easy to attain, learners may become bored with the curriculum. Objectives then must be sequenced or ordered properly so that continuous progress of students is an end result. Vocational students need to feel successful in each lesson and unit taught. Feelings of success spur learners on to greater and higher levels of achievement. Feelings of failure tend to lower the self concept of the involved individual.

Depth teaching of knowledge, skills, and attitudes should be in the offing. With depth teaching, students achieve objectives with better understanding as compared to survey procedures. In emphasizing the former, students experience a variety of learning opportunities to attain each objective. An adequate amount of time is spent on learners achieving individual objectives. In survey methods of teaching, learners experience a more shallow approach in achieving each objective. Skimming of content, abilities, and feelings in a vocational course is more in evidence in survey as compared to depth teaching in ongoing lessons. There are many facets of determining objectives in the vocational curriculum that supervisors of instruction should assist in.

Rational balance among knowledge, skills, and attitudinal objectives should be in evidence in teaching- leaning situations. Why is this necessary? Knowledge acquired must be used or it may be forgotten rather quickly. That which is learned then must have utilitarian values. Skills objectives stress that students use acquired knowledge. Quality attitudes must be stressed in the vocational curriculum so that students have an inward desire to learn, grow, achieve, and develop. Positive attitudes then assist in achieving knowledge and skills goals more readily. Students need to feel that life has its many opportunities to become a productive member in society. Each opportunity needs to be

appraised and accepted as being worthwhile in and of itself. The vocational student must develop feelings of an adequate self concept. He/she then can attain in a more optimal manner. Lifelong learning is salient to a vocational student. Talents and abilities must be upgraded continuously in a changing societal arena. Workers become outdated unless continuous education is involved. The academic areas of reading and literature, mathematics, science, social studies, the fine arts, and physical education need to be stressed as integrated course work with vocational studies. For secondary and post secondary vocational classes, the student needs to avail the self of the many opportunities that are available for enrichment. If opportunities are not seized and accepted, they may not be available at a later time to the personal self. Richness of opportunities which are accepted as educational goals truly provide avenues to develop the self more adequately. Thus the goals of being a competent worker as well as being a person of immense personal development should make for a more satisfying life style. The supervisor of vocational education must stress both the objectives of the institution and personal development when providing leadership in the curriculum.

Workshops and Vocational Education

Supervisors of vocational education classes need to upgrade their own knowledge, skills, and attitudes in developing a quality curriculum. Faculty members also need to engage in continuous education for the best teaching and learning situations to accrue. A well devised workshop which meets the needs of participants can certainly improve the vocational curriculum for students. The workshop must have a relevant theme such as "Improving Instruction in Vocational Education." Otherwise, the learning activities can be quite open ended for the workshop. All faculty and administration/supervision personnel should attend the general session. The general session stresses the identification of problem areas in teaching vocational courses. Input

from each participant is a desired ideal in the general session. Participants need to discuss their concerns in teaching students. The writer has noticed the following problems voiced by instructors in teaching vocational education;

1. how to secure learner attention in teaching- learning situations.
2. how to adjust objectives so that each student experiences continuous progress.
3. how to evaluate student progress in a valid and reliable manner.
4. how to guide learners so that they understand what has been taught.
5. how to use performance objectives in teaching.

After adequate discussion of problems faced in teaching in the vocational arena, participants may volunteer to serve on a committee to solve a problem area as identified in the general session. Not more than four participants should be on any one committee. Assuming four have volunteered to serve on the committee to work an the problem of securing learner attention in ongoing lessons and units of study. An adequate number of reference sources should be available for data gathering, be they reading, audio- visual, or human resources. If students attend to ongoing presentations a better chance of depth learning, retaining what has been learned, and transferring that which has been acquired to a new task will be more in evidence. In answer to the problem of securing learner attention, the following suggestions may have been acquired through the use of reference sources;

1. the teacher using voice inflection such as proper stress, pitch, and intonation to develop learner interest in the lesson presentation.
2. the teacher rewarding learners with verbal praise for quality responses given by students.
3. The teacher varying methods of teaching used. Varied methodology might include inductive procedures, problem solving methods, deductive approaches, teacher- student planning of the curriculum in part, student selection of term projects that relate to the

course content, and the use of measurably stated objectives.

4. the teacher using eye contact continuously in teaching- learning situations.

5. The teacher adjusting the curriculum to present individual levels of learner attainment with continual learner progress following.

Quality consultants need to be available to assist participants in the workshop to secure needed information. Consultants must be knowledgeable and be able to work harmoniously with each participant in the workshop. Consultants can be very helpful in guiding participants to clarify ideas, to think critically and creatively, as well as engage on problem solving. They may be excellent in assisting the workshop participant to appraise the quality of responses secured to problem areas. A supportive consultant is necessary to promote the goals of each workshop participant.

A good professional library should be available to all vocational education faculty during the entire school year. The library becomes crucial when a workshop is being conducted. Teacher education textbooks, video- tapes, video- disks, pamphlets, brochures, research studies, among other reference sources, should be available to participants in the workshop. Supervisors of vocational education guide instructor proficiency by encouraging library use.

In addition to the general session and committee endeavors, participants should also choose a personal problem or area of difficulty to pursue in the workshop setting. Perhaps, a participant wishes to study approaches in appraising a student in an apprenticeship situation. The workshop participant with consultant leadership might study the use of quality criteria to evaluate a student at the work place using instructor observation. Each criterion emphasized needs to reflect recommended thinking by specialists in evaluating student progress. Observations made should be reliable in that if a second observer evaluates the same student, consistency of evaluation results from the two evaluators should be in evidence. Should the two evaluators disagree much, one could

develop no conclusions from observations made. It is only if consistency is in evidence that conclusions can be drawn pertaining to the quality of work done by the apprentice. Thus interobserver reliability is important when appraising a single person in the work place.

The workshop participant may also study the use of rating scales and checklists as means of evaluating individual student attainment. Standards on both the rating scale and checklist should reflect the latest trends in behavior that a good student or worker should exhibit to achieve optimally. The results from using the rating scale and the checklist can be filed and compared with future evaluations.

Additional evaluation procedures to use include teacher written test items such as true- false, multiple choice, essay, matching, and short answer test items. Each test item must possess clarity so that students understand that which is wanted in terms of responses. Tricky items on a test must be eliminated. Trivia has no place in test items that appear on a vocational test. Results from the test for each student should be used to reteach and modify needed knowledge, skills, and attitudes. Test results then have an important and integral role the teaching- learning process. Supervisors of vocational courses have an important role in guiding instructors to do a good job in evaluating student progress and using the evaluation results to improve instruction.

Faculty Meetings

Instructors need to share ideas gleaned from the workshop which were used in actual teaching- learning situations. Sharing can be done in a series of regularly scheduled faculty meetings. Peers should want to learn how well new ideas secured from the workshop actually work in the classroom setting. Each instructor will need to adapt content secured from the workshop to his/her own plans for instruction. Adaptations also should be made to fit the categories of learners taught in vocational education, be they normal students or handicapped individuals. If a participant in the workshop acquired selected theories of learning in the vocational arenas, application of those studied must be planned and

implemented. Theories need to be practical and guide instruction. Each theory provides guidance and direction to what is done in the instructional arena. Instructional procedures should not be left to chance but has a source which improves instruction.Thus the supervisor of vocational education assists workshop participants to implement specific teaching suggestions as well as relevant theories of instruction. How well workshop ideas work in teaching- learning situations can be shared within the faculty meeting setting.

Stimulus- Response theory stresses that what students have learned can be measured through testing as well as through other objective procedures of appraisal. Numerical results only are wanted from students when they are being appraised. Percentile ranks, quartile deviation scores, standard deviation results, and stanines are acceptable examples of learner results from evaluation. Feedback to students in terms of achievement is then free from bias and the subjective. Objectives of vocational instruction are chosen well ahead of the time they are to be implemented in teaching- learning situations. Precision in writing the objectives is salient. Either a student attains or does not attain an objective, arranged in ascending order of complexity with other objectives. There is no leeway basically for interpreting the meaning of any single objective. Objectives in S-R theory of learning are clear, direct, and lack vagueness. The instructor of vocational courses may announce to students the objectives to be attained, prior to the lesson presentation.

Learners then knew what is expected of them as a result of instruction. Reinforcement of correct responses is very important, If a student responds correctly in diverse learning situations, he/she should be rewarded for doing well. Verbal praise can be an effective reinforcer. Reinforcers can shape student behavior in a desirable direction. Continuous reinforcement can be very helpful in students developing quality attitudes and feelings toward the present course being taken. The learner should then put forth increased effort in learning. Not only are attitudinal goals attained more effectively, but also knowledge and

skills objectives. Quality attitudes do affect the number of knowledge and skills goals achieved.

Supervisors of vocational coursework should also guide instructors to use problem solving procedures in teaching- learning situations. With problem solving, the instructor guides students to identify a problem within a contextual setting. Learners then develop one or more hypotheses in answer to the problem. A variety of reference sources are then used to check each hypothesis. Reference sources can consist of

1. vital textbook content for the course.
2. the instructor of the class or other knowledgeable people.
3. relevant audio- visual materials, brochures, and pamphlets, among other relevant sources.

Following the gathering of data, the hypothesis is evaluated. The hypothesis may then be modified if needed. Instructor observation is necessary to evaluate how well learners are engaging in problem selection, developing hypothesis, checking each hypothesis, as well as modifying the hypothesis if needed. The Instructor then must appraise student attainment in the classroom setting or in the work place in noticing how well learners are achieving in real life- like situations. Thus in a hands on approach, students are appraised in terms of criteria emphasized in problem solving. Problem solving stresses a psychological sequence in that learners are heavily involved in sequencing or ordering their own activities with instructor guidance.

In Closing

The supervisor of vocational education has many salient responsibilities. He/she provides guidance and direction to instructors in updating the objectives of instruction, choosing learning opportunities for students to attain objectives, and selecting evaluation procedures which truly appraise learner achievement.

The supervisor provides leadership to make necessary changes in the vocational curriculum through the use of workshops and faculty meetings. Inservice training and education are needed continually to

develop a quality vocational curriculum for students.

ANALYZING TRENDS IN THE CURRICULUM

Present day trends in the curriculum have evolved from the past. There are selected trends that come under a different name as compared to the past. Also, there are trends which are completely different in representing relevant ideas in curriculum development. There is criticism of fads in the curriculum; these fads come and go rather rapidly. Then too, there are stable ideas which provide a structure to build upon in order that quality is in evidence. The balance of this paper will discuss relevant trends in today's curriculum.

Cooperative Learning

Cooperative learning is receiving considerable emphasis in curriculum development. It is difficult to say how different cooperative learning is from the earlier term of "committee endeavors" stressed in curriculum development. Presently, it appears that most writers and speakers in education recommend using cooperative learning rather heavily in the classroom. Thus pupils in a class work cooperatively in projects, activities, and experiences. The teacher becomes a guide or assistant to help learners achieve as much as possible. It is important here to emphasize that pupils work as a unit, not separately. Quality group dynamics becomes salient in cooperative learning. Learners then need to achieve goals and be goal centered. Competition among individuals is deemphasized and cooperation is salient. Individuals may work on different tasks in a team setting; however, these endeavors should represent cooperation in goal attainment.

Why is cooperative learning important? Presently as well as in the work place, individual will be asked to work harmoniously with others. The individual who cannot work well with others will be handicapped. There are people from diverse cultures and abilities in any work place. Thus a pupil presently should be able to work with children of different values and talents. Being able to accept others is of utmost importance. Pupils individually need to be responsible to contribute optimally in

cooperative endeavors. They need to think of themselves as a part of a group, not as competitive individuals.

At issue here is how much stress should be placed upon cooperative learning as compared to individual endeavors? To think about individual endeavors in the curriculum, one must admit this is also important. Each person interacts with others and yet also needs to be able to use spare time wisely on an individual basis. A person is not a member of a group always but is also a person who has unique interests, needs, and purposes.

The Interdisciplinary Curriculum

The interdisciplinary curriculum advocates stress that pupils should perceive knowledge as being related, not isolated entities. Thus a unit of study for pupils should be thematic based and stress mathematics, science, social studies, and language arts, among other academic disciplines. Advocates state that if pupils perceive knowledge as being related they will retain learnings longer and be better able to use subject matter in problem solving. Problem solving tends to emphasize the interdisciplinary curriculum more so than does the separate subjects curriculum.

The interdisciplinary curriculum requires careful planning so that in unit thematic teaching, learners may integrate content and use the related knowledge in school and society. Too frequently, pupils perceive knowledge in categories and separated into component parts. Relationship of subject matter taught is very much in vogue in terms of educational thinking. It is not known how much of integration of content is actually advocated by teachers. However, educational literature and speakers in education strongly advocate the interdisciplinary curriculum.

At issue here are several points. These questions are the following:

1. How much of the interdisciplinary curriculum should be stressed in the curriculum?

2. Should the interdisciplinary curriculum be stressed in equality

of time in all academic disciplines, e. g. science as compared to mathematics?

3. Should some emphasis be placed upon the separated subjects curriculum such as mathematics only with its unique scope and sequence?

4. Is the interdisciplinary curriculum a fad or will it endure for some time?

5. Have there been times in late educational history whereby individual academic disciplines were advocated in teaching and learning situations?

Team Teaching

Along with the interdisciplinary curriculum, team teaching is emphasized as being relevant b educators in general. How does the interdisciplinary curriculum relate to team teaching? On the intermediate grades, middle school/ junior high school, and senior high levels, subject matter from different academic disciplines can be quite complex for one teacher to integrate. Thus, for example, four different teachers representing social studies, science, mathematics, and the language arts respectively, plan the objectives, learning opportunities, and appraisal procedures collectively. The emphasis here is upon each academic discipline being involved in planning what pupils should learn. Stress should be placed in the planning and implementing sessions that pupils perceive subject matter as being related, not as isolated entities. One academic disciple may well serve as the core of the thematic unit of study. The other subject matter areas relate directly to the core of the thematic unit of study.

In team teaching, each member teaches in large group instruction, assists learners in committee endeavors, and evaluates pupil achievement. The team members observe each other teach and evaluate the quality of instruction. Built in inservice education is an important end result here. Team members need to cooperate and harmonize endeavors. Quality group dynamics and interpersonal relations are musts! Teachers

need to assist each other to grow, develop, and achieve. The teaching team is a unit, not a competitive entity. Cooperatively, the team needs to harmonize and integrate efforts.

What are viable issues in stressing team approaches in teaching and learning situations?

1. Are team members able to work together well so that the best learning opportunities possible are planned and implemented for learners in the school setting?

2. Does charisma of a teacher enter in so that he/ she alone will receive the most attention from pupils and other teachers on the teaching team? All academic disciplines need adequate attention as well as each teacher needs to feel being wanted and possessing value.

3. Do team members value each other's ideas in planning and implementation sessions?

4. Do pupils achieve as much or more with team teaching as compared to self contained approaches in the curriculum?

5. Are the members of the team truly engaged in team teaching rather than "turn" teaching? In turn teaching each teacher plans and teaches separately form the others, but may be a part of a group called team teaching.

Constructivism in the Curriculum

A philosophy of constructivism in teaching comes up frequently in educational literature. Contextual situations are involved in constructivism. The learner or committee of pupils work in an ongoing task which stresses a hands on approach in learning. Problem solving might provide a good example of pupils being involved in constructivism. Thus pupils with teacher guidance identify a problem within an ongoing learning opportunity. The problem is adequate delimited so that clarity is involved in developing a related hypothesis or answer. The hypothesis is tentative and subject to evaluation through additional activities and experiences. The results reveal if the hypothesis needs revisions or modifications. These are flexible steps in problem solving, not an

absolute. Lifelike problem solving experiences are quite different as compared to the taking of tests such as true- false, multiple choice, essay, matching, and completion test items. These test items are external to the present learning situation of pupils. Then too, pupils when responding to paper/ pencil test items are not involved in a hands on approach in learning. The tests are given at times much different than when the specific learning activity was emphasized. Whereas, in constructivism the teacher appraises through observation as pupils progress in each step of problem solving or other psychological sequential steps of learning. Sequence resides within the learner not in test items being pursued.

Pertaining to constructivism as an approach in teaching and learning as well as in assisting pupil achievement, the following questions arise:

1. Is constructivism powerful enough to minimize the testing and measurement movement so prevalent in state mandated tests and other teacher accountability procedures?

2. How reliable are constructivist approaches in assessing and evaluating of pupil progress? How much agreement then would there be between two or more observers appraising learner progress in constructivism? A problem of interrater reliability is involved here.

3. Will parents be satisfied with evaluation results from their child's work in a constructivist curriculum? For example, it becomes very difficult to provide numerical results of pupil progress in constructivism as a philosophy of instruction. From standardized and criterion referenced tests, numerical results are possible for parents to see.

4. Should constructivism be used along with measuring pupil achievement to ascertain learner progress?

5. Might subject matter be taught well with adequate pupil retention outside the framework of constructivism?

Full Inclusion

Many educators are recommending that special education classes

be disbanded and all pupils be taught in the regular classroom. Full inclusion is a term used to express the concept that segregating pupils into special education classes should be eliminated or at least greatly minimized. Rather, each pupil needs to be taught in the regular classroom with others regardless of ability levels. Thus heterogeneous grouping of pupils is recommended. Pupils formerly taught in special education classes are now to be placed within the framework of the regular classroom. Equality of learning opportunities is being emphasized here. If a pupil is in a special education class, the chances are he/she is not getting the quality of education needed, according to advocates of full inclusion. High expectations for all pupils is a must. Equity of pupil chances to succeed is a must. Democracy insists that each pupil has opportunities to learn and develop just like any other individual. Homogeneous grouping of pupils violates tenets of democracy, according to advocates of full inclusion.

Questions which might be raised pertaining to full inclusion include the following:

1. Should some time during the school day be given to homogeneous grouping of pupils such as in having three somewhat uniform groups of learners for reading instruction? Should the teaching of gifted pupils emphasize homogeneous grouping?

2. What happens to the achievement of other learners in the classroom when mentally handicapped pupils are mainstreamed into the regular classroom? Can the teacher provide adequately for the wide range of pupil achievement in the classroom with full inclusion?

3. Might there be behaviorally disordered pupils who should not be in the regular classroom due to disturbing other learners?

4. Are teachers adequately prepared to teach special education pupils in the regular classroom? Would selected pupils do better in a special education classroom as compared to the regular room?

5. Why all the clamor for mainstreaming many pupils when in special education classes the teacher/pupil ratio is much lower than in the regular classroom? Do individual pupils receive more assistance

from teachers when the numbers are small in special education classrooms?

Learning Styles of Pupils

Advocates of adjusting instruction to the personal learning style of the individual learner are quite convincing and, perhaps, rightfully so. Tests used to ascertain the learning style of an individual pupil might reveal that he/ she learns best from the concrete as compared to the semiconcrete or the abstract. Or, a pupil learns best through the mode of listening as compared to shared interaction. There are many other examples that might be given in terms of learning opportunities in which a pupil may learn better from one mode as compared to another. These are the following: committee endeavors as compared to individual experiences, team teaching in classrooms as compared to the self contained concept of instruction, the project method of teaching as compared to reading of content as being paramount, emphasis upon psychomotor as compared to cognitive or affective objectives in the curriculum, a separate subjects as compared to an interdisciplinary curriculum, authentic evaluation as compared to testing as a means to ascertian learner achievement, and a teacher determined curriculum as compared to teacher/pupil planning of learning activities/ experiences.

Issues involved in using learning styles philosophy in determining under which conditions pupils learn best and using the results to plan an individualized curriculum include the following:

1. All pupils need to learn to read and write well. If these approaches do not harmonize with the learning style of a pupil, he/she still needs to develop proficiency in these areas.

2. There are usually twenty to thirty pupils in a classroom. It would be impossible to harmonize instruction with each style of learning exhibited by pupils in the classroom.

3. Teachers also have their unique styles of teaching. How can these be harmonized with the pupil's personal style of learning?

4. Do schools have an adequate supply of teaching materials to

provide for diverse styles of pupil learning?

5. Are teachers properly trained and educated to provide for different learning styles that pupils possess?

The Block of Time

many educators recommend that teachers organize instructional time around a block of time. Thus instead of forty-five minutes per class session, the time would be doubled to ninety minutes. Instead of two separate courses taught, each forty-five minutes in length, an integrated course would be taught, such as social studies and language arts for a ninety minute session. Team teaching may be emphasized here in that a social studies and a language arts instructor harmonize efforts to teach during the ninety minute block of time. Advantages include fewer separate subjects would be taught. Also, teachers could get to know a given set of pupils better since instructional time each day would be doubled as compared to the separate subjects approach of instruction. In the latter plan, pupils may move from room to room for social studies separate as compared to instruction in the language arts. Fewer pupils are taught in a give school day, month, or year in a block of time as compared to a forty-five minute period of time for social studies and then for the language arts.

Issues that arise pertaining to scheduling using a block of time include the following:

1. Are teachers able to secure/ hold pupil attention for two periods of time in a block as compared to the traditional amount of time given for teaching each curriculum area?

2. Are there learning styles which indicate that pupils need a shorter period of time for a curriculum area as compared to the block?

3. Do individual teachers have preferences as to which plan of scheduling is better, the traditional individual period or the block of time?

4. Would an integrated curriculum be necessary in the block schedule?

5. Might public/human relations be a problem in having a set of pupils for a block of time as well as a team of teachers planning and implementing the curriculum?

In Conclusion

There are many other trends which need analyzing and a synthesis reached pertaining to the issues therein. These include multicultural education, gender equity, whole language instruction, portfolios and tech prep. For each problem area identified, problems need identification and solutions sought. No trend is perfect nor does it represent a panacea. Rather, educators need to develop new ideas in teaching which assist pupils to attain more optimally. Each plan needs to be assessed and remediated. The best curriculum possible needs to be available for each pupil. This means the best objectives, learning opportunities, and appraisal procedures need to be in the offing to guide optimal pupil achievement.